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10-21-2022

## Embrace Cultural Relevance with Mathematical Decision-Making

Jordan Moreno

Eryn M. Maher

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# The 63rd Annual Georgia Mathematics Conference



Conference Program  
**DRAFT** October 19 – 21, 2022

**The Georgia Council of Teachers of Mathematics**  
**63rd Annual Georgia Mathematics Conference**  
**2022 Conference Overview**

**Wednesday, October 19<sup>th</sup>**

2:00 – 7:00 PM	Registration and Lodging	International Paper
5:30 – 6:45 PM	Dinner (pre-purchased)	Dining Hall A-B
6:45 PM	Opening Session Keynote Speaker: Dr. Lya Snell	Talmadge Auditorium
7:30 PM	GCTM Business Meeting & Give-aways	Talmadge Auditorium
8:15 PM	Trivia Night & Refreshments	EMC Senior Pavilion
8:30 – 9:30 PM	Registration and Lodging	International Paper

**Thursday, October 20<sup>th</sup>**

7:00 – 8:30 AM	Breakfast (pre-purchased)	Dining Hall A-B
8:30 – 9:20 AM	Morning Session Keynote Speaker: Dr. Peter Liljedahl	Talmadge Auditorium
7:30 AM – 6:00 PM	Registration and Lodging	International Paper
9:00 AM – 4:30 PM	Exhibits	Sutton Hall
9:45 AM – 4:45 PM	Conference Sessions	Various Buildings
9:45 – 10:45 AM	Welcome First Timers ( <i>optional</i> )	International Paper 2
11:30 AM – 1:00 PM	Lunch (pre-purchased or cash-only Cookout Lunch)	Dining Hall A-B Outside Sutton Hall
5:00 PM	PE and Fun Run at the GMC	EMC Senior Pavilion
5:45 – 6:45 PM	Dinner (pre-purchased)	Dining Hall A-B
7:30 PM	Evening Session Superintendent Candidates, GCTM Awards, & Give-aways	Talmadge Auditorium
8:45 PM	Dancing, Karaoke, Music & Refreshments	EMC Senior Pavilion
9:00 – 9:30 PM	Registration and Lodging	International Paper

**Friday, October 21<sup>st</sup>**

7:00 – 8:30 AM	Breakfast (pre-purchased)	Dining Hall A-B
7:30 – 9:00 AM	Registration	International Paper
8:30 – 9:20 AM	Morning Session Keynote Speaker: Dr. Beatrice Luchin-Moore	Talmadge Auditorium
9:00 AM – 1:00 PM	Exhibits	Sutton Hall
9:45 AM – 3:30 PM	Conference Sessions	Various Buildings
11:30 AM – 12:45 PM	Lunch (pre-purchased or cash-only Cookout Lunch)	Dining Hall A-B Outside Sutton Hall

**KEYNOTE SPEAKERS**

*Please see the Keynote Speakers' bios online at [www.gctm.org](http://www.gctm.org)*

Dr. Lya Snell



Dr. Peter Liljedahl



Dr. Beatrice Luchin-Moore



Welcome 2022 Georgia Mathematics Conference Attendees!

We are excited to have the Georgia Mathematics Conference back in-person at Rock Eagle! Our theme for the conference being held October 19-22, 2022, is **Reunite to Refocus and Reimagine**. This theme captures our desire to re-engage in the mathematics work as we begin preparing for the implementation of Georgia's K-12 Mathematics Standards for school year 2023-2024. The revised standards focus on students' understanding and ability to apply the mathematics in context. Our conference includes sessions on the Georgia Mathematics Standards and sessions of "tried and true" effective instructional practices to strengthen our mathematics programs.

We are committed to providing Georgia mathematics teachers opportunities to hear nationally known speakers, to interact with other Georgia teachers, and to see demonstrations from and meet with our sponsors. Highlights of the conference include:

- A keynote from **Dr. Lya Snell**, Georgia Department of Education Mathematics Program Manager, Wednesday evening on looking forward to the 2023-2024 Georgia's K-12 Mathematics Standards
- *Building Thinking Classrooms in Mathematics* author **Dr. Peter Liljedahl** keynote on Thursday morning
- **Sean Kavanaugh**, *360 Degree Math* founder, featured speaker all day on Thursday to expand upon lesson structure with VNPS (vertical non-permanent surfaces)
- **Georgia State Superintendent** forum and **GCTM Awards** on Thursday evening, including the fun run, scavenger hunt, and other social activities
- Friday morning keynote followed by workshops with **Beatrice Luchin-Moore** focusing in on effective mathematics strategies and growth mindset
- **Teacher, GaDOE**, and **exhibitor** presentations sharing effective teacher practices to implement immediately in your classroom Thursday and Friday

We look forward to our reunion with Georgia mathematics teachers and encourage you to take advantage of the opportunities to learn with and from your Georgia colleagues.



Michelle Mikes, Ed.D.  
Conference Program Chair  
Georgia Mathematics Conference 2022

### **2022 Georgia Mathematics Conference Program Committee**

Michelle Mikes, Cobb County Schools  
Kim Conley, Lee County Schools  
Tynisha Robinson, Metro RESA  
Ashley Clody, Cobb County  
Miranda Westbrook, Metro RESA



NATIONAL COUNCIL OF  
TEACHERS OF MATHEMATICS

September 16, 2022

To the Georgia Council of Teachers of Mathematics:

On behalf of the National Council of Teachers of Mathematics (NCTM) I am pleased and honored to welcome you to your 63<sup>rd</sup> annual conference. Welcome back to your first in-person conference in several years! Thanks for taking the time to grow professionally and ultimately benefit the students you'll teach for years to come.

I hope you take the time during these next few days to make some new friends as well as spend time with old friends—to Reunite, Refocus, and Reimagine. Take the new ideas you get from the many sessions offered and spend time talking with those friends about them. Talk about what is working well in your settings and get new ideas for those things that need some improving.

NCTM values its relationship with the Georgia Council of Teachers of Mathematics and appreciates the support it has given in the planning and presentation of NCTM Annual Meetings in 1976 and 2007. We're looking forward to being in Atlanta for NCTM Annual Meeting and Exposition again in 2025. These joint endeavors have offered valuable professional enrichment to thousands of teachers of mathematics—many of them members of both organizations.

On NCTM's behalf, I thank you for the professional development that you continue to provide to teachers and for the array of resources that you offer to support mathematics education. The Council applauds you for continuing to address your mission of encouraging an active interest in mathematics and acting as an advocate for the improvement of mathematics education at all levels.

Sincerely,

A handwritten signature in black ink that reads "Kevin J. Dykema".

Kevin J. Dykema  
President

1906 ASSOCIATION DRIVE  
RESTON, VA 20191-1502  
TEL: (703) 620-9840  
FAX: (703) 476-2970  
WWW.NCTM.ORG

## EMERGENCY INFORMATION

In case of a medical emergency, notify Rock Eagle staff to activate the facility emergency plan:

- During office hours (**8 AM – 5 PM**), use a cell phone to call the administrative office at **706-484-2899** or use a building phone and dial **2899**.
- Outside office hours, use a cell phone to call **706-484-2821** to reach the person on duty in the guard house (front gate) or use a building phone to dial **2821**.
- When the dining hall building is open, request the serving staff to notify the manager on duty. If outside of serving hours, walk into the back of the serving area to reach the dining hall office.
- AEDs are located in these buildings:
  - Administrative Office
  - Dining Hall
  - Georgia Power
  - Guard House (front gate)

# Our Mission Statement

The mission of the Georgia Council of Teachers of Mathematics is to:

- promote a high-quality mathematics education for all students,
- encourage an active interest in mathematics and in mathematics education,
- promote ongoing professional development for mathematics education, and
- promote and reward excellence in the teaching of mathematics in the state of Georgia.

The objectives of the Georgia Council of Teachers of Mathematics are to encourage an active interest in mathematics and to act as an advocate for the improvement of mathematics education at all levels.



## Mark Your Calendars!!!

June 12-13, 2023: Tift County  
June 15-16, 2023: Bulloch County  
June 21-22, 2023: Oconee County

### Participant Comments

- “GCTM’s academy was one of the best conferences I’ve ever been to! I would recommend this conference to any educator/admin/parent I know!”
- “This has been by far the most engaging, applicable, useful, and fun training I have ever been to. I am so excited to bring back all of my new math games to my team.”
- “The presenter related well to the group and kept our attention. The sessions were grade level specific while also providing insight into learning progressions across grade levels.”

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### Call for GMC 2023 Speaker Proposals

- Call for Speaker Proposals will be available for submission beginning **April 1, 2023**.
  - Speaker Proposals are due by **June 15, 2023**.
  - All submitters will be notified of their speaker proposal status via email in **August 2023**.  
Ensure your email address is up to date on your submission.
-



Georgia Council of Teachers of Mathematics  
Professional Learning Program



**ATTENDANCE CONFIRMATION FORM 2022**

Participant's Name: \_\_\_\_\_

Home Address: \_\_\_\_\_

School System: \_\_\_\_\_

Certification Type: \_\_\_\_\_ Position: \_\_\_\_\_

**Name of Course:** Annual Georgia Mathematics Conference

**Improving the Teaching and Learning of Mathematics**

Session #	Session Title and Presenter	Hour(s)	Presenter Initials
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

I have attended the sessions as indicated.

\_\_\_\_\_  
Signature Date

**Turn in the completed form to your school system professional learning coordinator.**

A total of ten hours of session attendance is generally required for one PLU, but may vary according to the requirements of your school system. Your system may also require completion of follow up activities.



## Updates and Feedback

### Conference Updates

Do you want to know the latest conference updates when it is “hot off the press” (e.g., session cancellations)? If yes, JOIN the GMC text message notification system, through Remind.

Text the message **@98db24** to the number **81010**. If you’re having trouble with 81010, try texting **@98db24** to (502) 694-1142.

### Ways to SUBMIT Feedback.

#### Conference Evaluation Forms

Please use this form to comment on the overall conference. Place completed forms in the boxes (registration area, Dining Hall, Auditorium).

The form is available electronically.

Complete the survey at

<https://tinyurl.com/2022RockEagle>

Scan the QR code



#### Session Evaluation Forms

Please use this form to comment on individual sessions. All speakers have several forms. Place completed forms in the boxes (registration area, Dining Hall, Auditorium).

The form is available electronically. Complete the survey at

<https://tinyurl.com/2022GMCsessions>

Scan the QR code



Extra copies of both forms are available in the registration area.

Are you good at capturing the moment? Take pictures of mathematical activities in a session, of you and friends participating in a session, or of anything else fun that you do at Rock Eagle! Email pictures to Rebecca Gammill at [gammillgctm@gmail.com](mailto:gammillgctm@gmail.com) for possible inclusion in *eReflections*.

Share your experience with us on social media at #GCTM2022.

Don't forget to tag @gctm\_math.

Thank You!



# Georgia Council of Teachers of Mathematics Annual Awards

## Gladys M. Thomason Award for Distinguished Service

Selection for this achievement award is based on distinguished service in the field of mathematics education at the local, regional, and state levels. Nominees should have demonstrated significant rendered services, service beyond normal job requirements, and services primarily for the improvement of mathematics instruction. This is GCTM's most prestigious award.

### Previous Recipients of the Gladys M. Thomason Award

2021 Denise Huddleston	2004 Tom Ottinger	1987 Wanda White
2020 Bonnie Angel	2003 Dottie Whitlow	1986 Aurelia Hinson
2019 Nicole Ice	2002 Barbara Ham	1985 Ed Davis
2018 Charles Garner, Jr.	2001 Margaret Faircloth	1984 Bill Bompert
2017 Chris Franklin	2000 David O'Neil	1983 Jo Anne Mayberry
2016 Tammy Donalson	1999 Thomas Cooney	1982 Peggy Neal
2015 Cheryl Hughes	1998 Wanda Oldfield	1981 Doris Dickey
2014 Ellice Martin	1997 Earl Swank	1980 Dora Helen Skypek
2013 Peggy Pool	1996 Cathy Franklin	1979 Lex Buchanan
2012 Debbie Poss	1995 Bill Roughead	1978 Clare Nesmith
2011 Lynn Stallings	1994 Jane Barnard	1977 Randall Hicks
2010 Susan Craig	1993 David Stone	1976 Cherry Clements
2009 Patricia Barrett	1992 John Neff	1975 Dorothy Simmons
2008 James Wilson	1991 Becky King	1974 Gwen Shufelt
2007 Barbara Ferguson	1990 Larry Elbrink	1973 Margaret Edenfield
2006 Dan Funsch	1989 J. Norman Wells	1972 Gladys M. Thomason
2005 Christine Thomas	1988 Mildred Sharkey	

### Dwight Love Award

This award is presented to a teacher in Georgia who models excellence in the profession and in life and gives much to others beyond the classroom as mentor, teacher and leader. The awardee is a master teacher, professionally active, and promotes GCTM and its mission.

### John Neff Award

This award is presented to a member of GCTM who demonstrates excellence as a full time post-secondary educator and/or district supervisor. The recipient is someone who is an inspirer, a mentor, and an advocate of mathematics and mathematics education.

### Awards for Excellence in the Teaching of Mathematics

Three awards are available, one each for elementary, middle, and secondary levels, and are given to excellent teachers who have strong content foundations in mathematics appropriate for their teaching level, show evidence of growth in the teaching of mathematics, and show evidence of professional involvement in GCTM and NCTM.

### Teacher of Promise Award

GCTM recognizes one outstanding new teacher/ member in the state each year who has no more than 3 years of experience at the time of the nomination and who demonstrates qualities of excellence in the teaching of mathematics.

### Bill E. Bompert Award

This award is presented to a mathematics support professional in Georgia who is employed by a school system, serves in a role to support mathematics teachers in instruction and student learning, and is professionally active in education. The recipient is someone who is an inspirer, a mentor, and an advocate of mathematics and mathematics education.

### Friend of Mathematics Award

Nominated and selected by members of the GCTM Executive Board, the winner of this award is an individual who, while not a mathematics teacher / educator, is dedicated to supporting the missions and goals of GCTM, as well as its members individually and as a whole.



## AP Calculus and AP Statistics Teachers

Join us for the GA<sup>2</sup>PMT Annual Meeting at  
GCTM's Georgia Math Conference at Rock Eagle\*  
October 21, 2022

### Meet Our Featured Presenters:

#### **Bekki George**

*With 20 years experience as a mathematics and computer science teacher at the secondary level and more than 14 years experience as a mathematics instructor at the post-secondary level (University of Houston and Georgia Tech, Bekki George enjoys making math interesting and challenging for her own students. She is passionate about teaching and has directed outreach programs for high school Advanced Placement Calculus and Statistics teachers. She received her master's degree in mathematics and PhD in Measurement, Quantitative Methods, and Learning Sciences from the University of Houston. Bekki has graded for AP Computer Science and Statistics and was on the curriculum committee for AP Precalculus.*

#### **Bob Amar**

*Bob Amar is the Upper School Math Department Head at The Lovett School in Atlanta, GA. A math teacher since 2006, he has taught all levels of high school math, including AP Calculus and AP Statistics, and has been a reader for AP Statistics the past three years. Bob is the programmer of the web-based support software for Statistical Reasoning in Sports and Statistics and Probability with Applications, and from these foundations he and Josh Tabor created Stapplet. Originally designed to be a graphing calculator replacement for students who already have internet-connected devices, the collection has expanded to include activities and the ability to collaboratively collect data. Last school year, Stapplet had over 600,000 users and over 2.1 million sessions!*

All sessions are located in **Rooms 1 & 2 of the Gas Building on Friday.**

	Room 1	Room 2
<b>9:45-10:45</b>	Dan Butler, Vicki Greenberg, and Bob Amar, The Lovett School <b>Standards-Based Grading in an AP Course</b>	Henry Oglesby Woodstock High School <b>Navigating Teaching AP Post Pandemic</b>
<b>11:00-12:00</b>	Bob Amar <b>Stapplet and the Thinking Statistics Classroom</b>	Bekki George <b>Insider Information on AP Precalculus and HACT Resources</b>
<b>12:00-1:00</b>	<b>GA<sup>2</sup>PMT Business Meeting &amp; Lunch</b>	
<b>1:15-3:30</b>	Vicki Greenberg and Bob Amar, Lovett School Lisa Stevenson and David Custer, City Schools of Decatur <b>Report from the AP Statistics Reading</b>	Marshall Ransom, Georgia Southern University Chuck Garner, Rockdale Magnet School Dennis Wilson, Landmark Christian School <b>Report from the AP Calculus Reading</b>

\*Registration for the Georgia Math Conference is required to attend the GA<sup>2</sup>PMT annual meeting.

Visit [www.gctm.org](http://www.gctm.org)

to register for the conference and see [www.GAAPMT.org](http://www.GAAPMT.org) for more about GA<sup>2</sup>PMT.

**Lunch will be provided during the AP reading session for current GA<sup>2</sup>PMT members.**



Thursday, October 20, 2022

## Thursday, October 20<sup>th</sup> Planner

Time	Session Options (List top 3 options)	Location	Speaker
8:30 AM – 9:30 AM	Keynote	Talmadge Auditorium	Dr. Peter Liljedahl
9:45 AM – 10:45 AM	Session Option 1		
	Session Option 2		
	Session Option 3		
11:00 AM – 12:00 PM	Session Option 1		
	Session Option 2		
	Session Option 3		
11:30 AM – 1:00 PM	<i>Lunch (pre-purchased in Dining Hall or cash-only cookout)</i> <b><i>Visit the Exhibitors in Sutton Hall</i></b>		
1:15 PM – 2:15 PM	Session Option 1		
	Session Option 2		
	Session Option 3		
2:30 PM – 3:30 PM	Session Option 1		
	Session Option 2		
	Session Option 3		
3:45 PM – 4:45 PM	Session Option 1		
	Session Option 2		
	Session Option 3		
5:00 PM	PE at the GMC: EMC Senior Pavilion		
7:30 PM	Evening Session with Superintendent Candidates, Talmadge Auditorium Awards Ceremony, Talmadge Auditorium Social Gathering, EMC Senior Pavilion		

### Are you good at capturing the moment?



Take pictures of mathematical activities in a session, of you and friends participating in a session, or of anything else fun that you do at Rock Eagle! Share your experience with us on social media at #GCTM2022



## Session 1: 9:45-10:45 AM

### **1 Welcome First-Time Participants to the Georgia Mathematics Conference**

*Kim Conley, GCTM President*

GCTM would like to welcome first time conference attendees with suggestions for how to get the most out of the conference, introduce you to GCTM, and answer questions. This is an optional session, geared for first-time attendees, new teachers and pre-service teachers.

### **2 Teaching Touchy Topics: Keeping It Real without Crossing Lines (General Interest)**

*Ryan Hoffpauir, Shelby Cloud, Emma Fouts, and Riley Mcentyre, Dalton State College*

In an increasingly partisan society, it is easy for mathematics teachers to focus just on facts and procedures. However, students need to be exposed to applications of mathematics in real situations that have divergent perspectives so that they can maintain informed opinions on societal matters. This session is about reflecting on some possible practices that may enable these conversations to take place in a safe environment for students and teachers alike. *Session repeats on Friday.*

### **3 Get Up, Stand Up: Learning Math in Social Networks (General Interest)**

*Sean Kavanaugh, 360 Degree Math – Featured Speaker*

Over the past three decades we have experimented with various Math curriculum and seen numerous iterations of Math state/national standards. However, when you step inside most Math classrooms across the country we continue to see students sitting in rows working in isolation. The impact of changing curriculum and standards can be debated, but the undeniable need to radically change how we teach and learn Math has never been more important in education. In this session, you will learn how to create a Math classroom environment built around how kids learn today. Teachers, coaches, and leaders will learn the value of increasing the amount and variety of independent practice as well how students engage in the work. *Session repeats each time slot on Thursday.*

### **4 Three Read Protocol: Mathematics Teachers Teach Reading Too (Grades K-5)**

*Angela Leach and Robbi Brown, Dekalb County School District*

During this session participants will learn a close reading strategy for teaching students how to make sense of complex word problems and framework tasks. Participants will use the Three Read Protocol to not only make sense of the problem, but also to remove vocabulary barriers. After engaging in the Three Read Protocol, participants will use Polya's Problem Solving Process to aid students in organizing their ideas to solve problems.

### **5 Math Counts: Developing Community and SMP through Math Club (Grades 4-8)**

*Shaina Bryant, The Kindezi School*

We will focus on using the Math Counts programs to build confidence, a sense of community, and Standards for Mathematical Practice.

### **6 Taste of the GCTM Summer Math Academy: Addition and Subtraction Strategies (Grades 2-3)**

*Ginny Baldwin, Reinhardt University*

Take a deep dive into addition and subtraction by exploring the "new" Georgia Math Standards for 2nd and 3rd grades. Participants will have the opportunity to explore a variety of hands-on tools, representations, and games to support student learning. *Session repeats on Friday.*

**7 Blended Learning for the Inclusion Math Classroom (General Interest)**

*Allie Beldin, Columbia County Board of Education*

This session will demonstrate how to use blended learning strategies to support students in an inclusion Math setting. Participants will explore educational technology such as the Quizizz lessons feature that creates opportunities for a student-centered learning environment. *Session repeats on Friday.*

**8 Equitable Practices in Problem Solving: Three Teachers Who Ignited**

**Classroom Discourse (Grades K-8)**

*Seyoung Holte, Northeast GA RESA; Julie Schirmer, Colham Ferry Elementary School; & Alexis Gatrell, Dove Creek Elementary School*

In this session, we will peek into classrooms where students are experiencing meaningful mathematics explorations and discussions. We will hear from the teachers who went through a professional development course Problem Solving and Effective Mathematics Teaching Practices and how their classroom discourse transformed as they implemented eight Effective Mathematics Teaching Practices.

**9 Reconnect, Reinvent, and Re-Envision Relationships (General Interest)**

*Valerie Wilson, Turner County Middle School*

Participants will learn strategies to evaluate, foster, and leverage their relationships with students to maximize student motivation.

**10 The Power of 1/6 (TEN Minutes) of an Hour (Grades K-5)**

*Laura Stokes and Hope Phillips, Columbus State University*

Find the power of 1/6 hour with Number Sense Routines. Change your class culture from answer-getting to sense-making. Minimal prep and a big payoff - the perfect duo!

**11 Literacy-Based Geometry Lessons (Grades 9-HE)**

*Dean Petti, Paulding County High School*

Online geometry lessons with reading and writing are provided that focus on error analysis, visualization, and connection to fields of work.

**12 A Reimagined Look at the Foundations of Geometry (Grades K-8)**

*Gwenyth Masch, Isabella Fairlamb, and Heidi Eisenreich, Georgia Southern University & Ha Nguyen, University of California - Dominguez Hills*

In this session, participants will learn new ways of teaching geometry and geometric classification. This will start with a look at the building blocks of shapes (vertices, edges, and faces) and we will use these characteristics to classify and compose shapes, and develop an understanding of area and volume formulas.

**13 Algebra is Accessible with Algeblocks! (Grades 4-8)**

*Leanne Luttrell and Jackie Hennings, hand2mind*

Experience hands-on algebra lessons using Algeblocks. These rich, engaging tasks promote a strong, conceptual understanding. Door prizes!

**14 Maximizing Differentiation with Station Rotations (Grades 4-12)**

*Katie Ruff, Carnegie Learning, Inc.*

Experience a differentiated station model as a student, discuss planning for implementation in differentiated stations and explore how to utilize data to effectively group students for station rotations.



**15 Fraction Essentials (Grades K-5)**

*Yolanda Coley, Sumter County Intermediate School*

This session will focus on developing fraction number sense for students. Methods discussed will include the importance of moving from concrete models to abstract concepts while maintaining authentic student engagement. Activities will range from meeting the needs of learners at various levels.

*Session repeats on Friday.*

**16 The Notion of Area as a Covering (Grades 4-8)**

*Sandra Trowell, Valdosta State University*

Participants will experience classroom tried activities that help students develop visual imaging through two dimensional activities. We will explore how these activities can support the development of spatial awareness and multiplicative thinking as well as supporting the development of meaning for area.

**17 Purposeful Exploration through the Lens of STEM (Grades 4-12)**

*Shelly Baumann, Big Ideas Learning*

Students develop their mathematical skills through STEM connections by connecting math to the real world.

*Session repeats later in the day.*

**18 Family Math Night (Grades K-5)**

*Vinnie Prasad and Jennifer Murchie, Cobb County School District*

Stress-free parent math night? How is that possible? This session will explore the K-5 critical math standards and incorporate them into math night games. We will learn how to encourage parents to help support their child at home. Participants will walk away with all resources needed for a successful math night.

**19 Math in Motion with the TI-Innovator Rover (Grades 4-8)**

*Dennis Wilson, Landmark Christian School*

Join us as we explore Algebra, Geometry concepts using the TI-Innovator Rover. We will discover geometric formulas, and study direct and inverse proportions by investigating the relationship between position, time, and rates of change. No prior coding/programming experience is required.

**20 No More Isolation (Grades 9-12)**

*Angel Abney, Doris Santarone, and Brandon Samples, Georgia College and State University*

This session will help reimagine the teaching and learning of mathematics by demonstrating a lesson that integrates several New Georgia Mathematics Standards rather than teaching these as isolated topics. We will focus on the conceptual development of modeling data-driven functions, including linear and quadratic.

*Session repeats on Friday.*

**21 Use Technology Creatively for Greater Success on the SAT and ACT (Grades 9-12)**

*Tom Reardon, Fitch High School & Youngstown State University*

Focus on conceptual understanding: multiple representations, structure, and think graphically. Get activities, strategies and actual test items.

**22 Virtual Resources to Enhance Online and In Person Math Instruction (Grades 4-12)**

*Lorenzo Robinson, Lovejoy High School*

This session's purpose is to provide resources to connect and engage students with various learning styles in both virtual and in class environments.

## Session 2: 11:00 AM-12:00 PM

### **23 Assessment Strategies: Formative Assessments (Grades K-8)**

*Eva Solomon, Richards Middle School*

Participants will engage in activities that focus on: assessment strategies--the difference between formative and summative assessments--and techniques in using formative assessments with hands-on activities that they will be able to take with them and use in the classroom.

### **24 Get Up, Stand Up: Learning Math in Social Networks (General Interest)**

*Sean Kavanaugh, 360 Degree Math – Featured Speaker*

Over the past three decades we have experimented with various Math curriculum and seen numerous iterations of Math state/national standards. However, when you step inside most Math classrooms across the country we continue to see students sitting in rows working in isolation. The impact of changing curriculum and standards can be debated, but the undeniable need to radically change how we teach and learn Math has never been more important in education. In this session, you will learn how to create a Math classroom environment built around how kids learn today. Teachers, coaches, and leaders will learn the value of increasing the amount and variety of independent practice as well how students engage in the work.

*Session repeats each time slot on Thursday.*

### **25 New Takes on Discourse: Exploring Black Language in Mathematics Learning (General Interest)**

*Nickolaus Ortiz, Georgia State University*

The session will focus on three main areas: a) articulating what Black Language is b) exploring the significance of language and discourse in mathematics learning and c) brainstorming ways to honor Black Language in mathematics classrooms. *Session repeats on Friday.*

### **26 Reimagining Tasks to Capture Opportunities to Reason and Prove (Grades 4-12)**

*Anna Bloodworth and AnnaMarie Conner, University of Georgia*

We will explore how to modify tasks to increase opportunities for students to communicate their reasoning and develop mathematical arguments and proofs.

### **27 Numeracy Project For ALL (General Interest)**

*Jody Boutwell and Christi Buffington, Floyd County Schools*

We have the tools you need to grow students, scaffold grade level instruction, and fill those COVID gaps! We will dive into the Numeracy Project: the assessments, the progress monitoring component, and the activities. You will leave ready to implement it in your classroom on Monday. Resources will be shared from all over the United States, so please bring a device if possible. *Session repeats on Friday.*

### **28 Engaging Tasks for K and 1st Grade Students (Grades K-1)**

*Denise Huddlestun, Math Consultant*

Participants in this session will re-unite to determine the intent of the K and 1st grade Georgia Mathematics Standards, re-focus to explore tasks that promote reasoning and problem solving, and re-imagine and become better equipped to implement the Effective Mathematics Teaching Practices. The changes and improvements in the standards will be identified.

**29 Maximizing Math Instruction with a Focus on Reasoning Skills (Grades K-8)**

*Heather Elliot, Christine Carter, and Mandy Kelly, Carrollton Upper Elementary*

This session will show how to use Math Workshop while spiraling in yearly content and building a classroom community of independent thinkers. We will share how restructuring our classrooms to conceptually teach mathematical concepts lends itself to the rise in student learning, post pandemic. This will be a hands-on session as we walk through Math Workshop.

**30 Using Multiple Representations to Make Connections in Algebra (Grades 4-12)**

*Ashley Boyd, CPM Education Program*

Find connections between a rule, graph, table and context. These representations are only tools. The connections make them powerful. Learn ways to help students move from each representation to the others. *Session repeats on Friday.*

**31 Developing Algebraic Thinking Using the Area Model from Kindergarten to High School (Grades K-12)**

*Renee Owen and Joshua Nelson, Henry County Schools*

Participants will follow the development of algebraic thinking from Kindergarten through High School. The CRA framework will be used to promote the vertical alignment of the area model and other algebraic properties as participants work through problems at all levels. Participants will walk away with resources and strategies they can use immediately in the classroom. *Session repeats on Friday.*

**32 Adding Fractions: What Does it Mean Conceptually? (Grades K-8)**

*Heidi Eisenreich, Isabella Fairlanb, and Abigail Lorden, Georgia Southern University  
Ha Nguyen, University of California-Dominguez Hills*

In this session we will be using word problems and fraction tiles to make sense of fraction addition. By focusing on what the “whole” represents in the word problem, what each fractional part represents, and what we need to find in order to add our parts together, participants will have a deeper understanding of fraction addition and how to facilitate student discourse through introduction of this topic.

**33 Algebra for Everyone: Concept Strength with Discovery Light (Grades 4-12)**

*Josh Britton, Get More Math*

Too often, students experience Algebra as a series of obscure processes governed by teacher-provided formulas. Let’s change this!

**34 Differentiating Centers to Meet the Needs of All Students (Grades K-5)**

*Leanne Luttrell, hand2mind*

Differentiated centers for fluency and math concepts keep all students engaged and learning. All participants will receive free centers!

**35 Refining Your Practices: Mathematics for Social Justice (Grades 4-12)**

*Brian R. Lawler, Kennesaw State University*

Engage and empower students by applying mathematics to questions and concerns they have about the world, their community, or themselves. In this session, participants will learn about using mathematics to explore, understand, and respond to social injustices. We will discuss how to integrate issues of injustice into the secondary math classroom and explore specific examples of classroom norms and math tasks to support this work.

**36 Advanced Algebra with Finance Applications:  
A Junior-Senior Core Course Alternative (Grades 9-12)**

*Robert Gerver, Nomad Publishing*

This full-year course covers banking, credit, income taxes, insurance, investing, and more using selected topics from algebra 2, precalculus, geometry, probability / statistics and more. A great alternative for struggling students not ready for Algebra 2.

**37 Reunite, Refocus and Reimagine Your Classroom Using  
Growth Mindset (Grades 9-12)**

*Marilyn Ellis, Sandy Creek High School*

A growth mindset allows teachers to raise classroom expectations while giving students the tools to move them from a downward spiral to a virtuous cycle of growth. This presentation's focus is on how moving students and teachers to a growth mindset will refocus the mathematics classroom learning. Research data will be shared along with methods the presenter has used to move her students to a growth mindset.

**38 Chutes and Ladders in Probability and Statistics (Grades 10-HE)**

*Bobby Stecher, Stratford Academy*

What is the least number of turns it takes to win a game of Chutes and Ladders? What if you replace the spinner with a ten-sided die? If you add a ladder, could the chances of winning in 11 moves or fewer actually decrease? Don't be afraid to slide into this mathematical adventure for grades 10+.

**39 Differentiation in Advanced Pathways (Grades 4-8)**

*Amanda Shelley, Big Ideas Learning*

Discover how to use accelerated learning strategies to differentiate instruction for middle school students in advanced pathways. *Session repeats later in the day.*

**40 Leveling Up: Creating an Academically Challenging Environment (Grades K-12)**

*Jamesa Broome and Ann Vitello, Richmond Hill Middle School*

Want your students to be engaged from the beginning of class to the end? Want to incorporate some of those fun tasks we don't seem to have time for? Come and join us and see how we utilize our leveling up system. This system incorporates differentiated learning with engaging tasks and extrinsic motivation for completing levels. *Session repeats on Friday.*

**41 Using the TI-84+ to Discover and Understand Sequences (Grades 4-12)**

*Debbie Poss, GCTM*

The TI-84+ is a powerful tool to help students discover sequences, visualize them, write them both explicitly and recursively and to uncover their properties. Come see how the Table, List and Sequence Mode can enhance students' understanding and appreciation of sequences.

**42 The M in STEM, Cultivating STEM Mindsets through  
Math Literacy! (Grades K-8)**

*Allison Randall, Henry County Schools, and Alayna Odom, Clayton County Public Schools*

Join us as we highlight mathematical experiences and learning tasks used to creatively engage students and educators in STEM learning.

**43 You have to be Kidding...a Math Classroom without Paper?? (Grades 4-12)**

*Robbin Hill, Lovinggood Middle School*

You can utilize student devices and your VNPS to achieve a somewhat paperless classroom. Keep the students engaged!! Keep the students working!! Keep the students talking and doing the math!!



## Session 3: 1:15-2:15 PM

### **45 Reclaiming Your Balance (General Interest)**

*Veronica Walton, Sumter County High School*

The Covid-19 pandemic has added many demands to teachers' workloads, and this can sometimes feel overwhelming. This session will provide tips and strategies for new and veteran teachers to find a healthy balance between work and their personal lives.

### **46 Get Up, Stand Up: Learning Math in Social Networks (General Interest)**

*Sean Kavanaugh, 360 Degree Math – Featured Speaker*

Over the past three decades we have experimented with various Math curriculum and seen numerous iterations of Math state/national standards. However, when you step inside most Math classrooms across the country we continue to see students sitting in rows working in isolation. The impact of changing curriculum and standards can be debated, but the undeniable need to radically change how we teach and learn Math has never been more important in education. In this session, you will learn how to create a Math classroom environment built around how kids learn today. Teachers, coaches, and leaders will learn the value of increasing the amount and variety of independent practice as well how students engage in the work.

*Session repeats each time slot on Thursday.*

### **47 Reading Makes the Difference (General Interest)**

*Earline Burrell-Sneed, Rockdale County*

Reading can be integrated into math. In this session teachers will use reading strategies to help with math instruction. Teachers will also see that novels and reading text can be used to enhance rigor and engagement.

### **48 Taste of the GCTM Math Academies (Grades K-5)**

*Ginny Baldwin, Reinhardt University*

Make math meaningful through real-world, authentic contexts. The session will explore modeling mathematics, connections to literature, community-based projects, and integrating multiple content areas into math instruction.

### **49 From Paper Folding to Proportional Reasoning: Demystifying Fractions and Proportions (Grades K-8)**

*Seyoung Holte, Northeast Georgia RESA*

In this session, we will explore the wonder of mathematical connections between the whole number reasoning and fractional reasoning and walk through the progression of fractional/proportional reasoning as we "DO" mathematics through unitizing, partitioning, and iterating. We will look for and discuss opportunities where Mathematical Practices are promoted and Effective Mathematics Teaching Practices are applied. *Session repeats on Friday.*

### **50 Teamwork Makes the Dream Work (Grades 9-12)**

*Sallie Lunzmann, Amber Attaway, and Amy Jackson, Johnson County High School*

Our story: Increasing scores in Algebra 1 by planning with a content teacher, interventionist, and instructional coach using data as a guide for instruction and pacing.

### **51 The Power of 1/6 (TEN Minutes) of an Hour (Grades 4-8)**

*Hope Phillips and Laura Stokes, Columbus State University*

Find the power of 1/6 hour with Number Sense Routines. Meaningful practice of critical skills with minimal prep and a big payoff!

**52 Math Made Fun with Chexagon (Grades 4-8)**

*George Lanier, Foster-Johnson, LLC*

Teaching the use of the STEM math checkerboard game, Chexagon increases math proficiency in the classroom and for math competition.

**53 Reigniting the Spark in Math Coaching (General Interest)**

*Nyasha Lewis and Tracee Ragland, Fulton County Schools*

This session is framed by the 80/20 rule, which represents the time distribution for instructional coaches to be maximally effective. Participants will engage in learning that targets a coach's responsibilities aligned to the 80%. The session will close with recommendations for how administrators can support a culture of coaching.

**54 Endless Possibilities: Student Choice in the Classroom and in Assessment (Grades 9-12)**

*Miranda Hull, Marietta High School*

The session will address how student choice has motivated students in the classroom. Student choice allowed our students to feel they had a say in their learning, not just in everyday activities, but how they were assessed. It was data driven, with every feedback survey taken into account. We learned what units worked best with GSE standards and continue to strive to improve. We look forward to continuing our work as we crosswalk to the new standards. *Session repeats on Friday.*

**55 Grand Central Station to Station-Based Learning: in Assessment (Grades 9-12)**

*Tracey Wiley, Georgia Public Broadcasting*

Station-based learning is a demonstrated model for incorporating differentiated instruction into a classroom setting while creatively building student independence and enhancing engagement. Join GPB in a hands-on workshop exploring ideas for using literacy strategies and PBS Learning Media's free multimodal resources in the vision and construction of your own station-based learning environment for elementary math instruction.

**56 Math Workshop for Middle Grades? Absolutely (Grades 4-8)**

*Jane Hannon and Jackie Hennings, hand2mind*

Experience how using a "math workshop" model along with resources from hand2mind will engage students and help them make sense of math. Door prizes!

**57 The Real R.E.A.S.O.N: Preparing students for the New GA K-12 Math Standards (General Interest)**

*Demetrius Nelson, Griffin Middle School*

Participants will learn the R.E.A.S.O.N. approach to preparing students to perform better as their respective school district implements the new GA K-12 Math Standards. Participants will gain rigorous question instruction examples that they can use to support the R.E.A.S.O.N. approach. *Please bring a laptop. Session repeats on Friday.*

**58 DragginMath: A Different Vision of Algebra (General Interest)**

*Steven Abell, brising.com*

Convert equations into interactive pictures. See the relationships between their parts explicitly, then use those relationships to solve them. Learn how operator precedence and algebraic properties really work in a dynamic video-game experience. Low floor, high ceiling. Fun, but not a toy.

**59 Decimal Multiplication and Division: Why Do the Algorithms Work? (Grades K-8)**

*Haley Hanson and Jia He, Augusta University*

This session will engage participants to compare ways to explain the standard algorithms and alternative ways to teach decimal multiplication and division.

**60 End with a Bang! Investigating Effective Classroom Closings (General Interest)**

*Danielle Lanigan, Cobb County*

Lessons closings are an incredibly effective teaching tool but are often left out in classrooms. In this session, participants will learn innovative and engaging ways to close a lesson based on ideas from David Sousa, John Hattie, and Peter Liljedahl. Participants will leave with a renewed energy for lesson closings and easy-to-use closing strategies that can be implemented immediately.

**61 Differentiation in Advanced Pathways (Grades 6-8)**

*Amanda Shelley, Big Ideas Learning*

Discover how to use accelerated learning strategies to differentiate instruction for middle school students in advanced pathways. *Repeat of earlier session.*

**62 Understanding Unit Rates and Slope Using LEGO Robots (Grades 4-12).**

*Shelli Casler-Failing and Erin Schmidt, Georgia Southern University*

Using a LEGO robot, attendees will collect data for an investigation into the relationship among unit rates, rate of change, and slope. *Session repeats on Friday.*

**63 Connecting Trigonometry and Geometry (Grades 9-12)**

*Dennis Wilson, Landmark Christian School*

Using the development of the unit circle, we will explore why geometric terminology is used in trigonometry.

**64 Breaking Silos and Building Capacity in Algebra (Grades 8-10)**

*Cynteria Bandle and Towanda James, Henry County Schools*

Reimagine classrooms through the lens of cross-divisional collaboration and partnership as we embark on a journey for student success in Algebra.

**65 Tips & Tricks on the TI-84 and TI-SmartView for Grades 7-12 (Grades 4-HE)**

*Tom Reardon, Fitch High School & Youngstown State University*

For new and experienced users. Be amazed at what the calculator and emulator will do that you don't know about. Yet. 17-page PDF and videos!

**66 Creating a Digital Breakout Task using Microsoft OneNote (Grades 9-HE)**

*Karen Kline, Cobb County Schools*

Want to have your students actively involved in mathematics, but don't have a lot of room to move around? Try recreating classroom tasks into a digital breakout activity using Microsoft OneNote. In this session, participants will create a digital breakout task for your students through a series of guided steps. Bring your laptop and a set of math questions that you would typically use for reviewing.

What great idea will YOU  
present next year?



## Session 4: 2:30-3:30 PM

### **67 Getting Started and Maintaining a Collaborative Classroom (General Interest)**

*Sarah Jones, Carnegie Learning, Inc.*

Set the stage for a successful collaborative classroom by establishing routines and expectations. Come learn and discuss successful strategies designed to promote a productive learning environment. Walk away with a specific action plan to implement in your classroom.

### **68 Get up, Stand Up: Learning Math in Social Networks (General Interest)**

*Sean Kavanaugh, 360 Degree Math – Featured Speaker*

Over the past three decades we have experimented with various Math curriculum and seen numerous iterations of Math state/national standards. However, when you step inside most Math classrooms across the country we continue to see students sitting in rows working in isolation. The impact of changing curriculum and standards can be debated, but the undeniable need to radically change how we teach and learn Math has never been more important in education. In this session, you will learn how to create a Math classroom environment built around how kids learn today. Teachers, coaches, and leaders will learn the value of increasing the amount and variety of independent practice as well how students engage in the work.

*Session repeats each time slot on Thursday.*

### **69 Supporting Teachers When They Feel Like the Walking Wounded (General Interest)**

*Amanda Merritt, SREB*

Over the last several years, teachers have reported higher stress levels and increased feelings of burnout. Many have walked away from the profession they once loved. The teachers who remain need encouragement, emotional support, and a sense of empowerment. Whether you are a teacher leader, coach, or administrator, you will leave this session with strategies you can implement immediately that cultivate a culture of collaboration and self-care.

### **70 Building Students' Data Reasoning through Social Studies (Grades K-5)**

*Amarius Reed and Joanne Wyckoff, Atlanta Public Schools*

Do the data standards stress you out at the end of the school year? This session is for you! Gain strategies on how to integrate mathematics all year with social studies concepts that address data reasoning skills. Participants will engage in K-2 and 3-5 activities that foster data literacy through the use of 21st Century Skills.

### **71 Experience a Thinking Classroom! (Grades 4-HE)**

*Stefanie Frey and Lisa Sill, Greenbrier High School*

Join us as we demonstrate what a Thinking Classroom looks like at the high school level. This interactive hour will be packed with strategies that you can implement immediately, all based on Peter Liljedahl's research. Be sure to attend the Thursday morning keynote so you can get a glimpse into this mathematics education movement. *Session repeats on Friday.*

### **72 Strategies for Accelerating Student Learning (Grades 6-12)**

*Audrea Bankston, Carnegie Learning, Inc.*

Are you wondering how best to accelerate your students' learning? Have you considered how you can use MATHia and the Carnegie Learning resources to enhance students' mathematical experiences? Come and engage in a small group tutoring session. Learn about the re-engagement process which outlines how we support student learning by building on students' existing knowledge.

**73 Digging into the New First Grade Standards (Grade 1)**

*Karen Harrison, Cobb County School System*

We will conduct a complete crosswalk between the GSE first grade standards and the NEW GA standards. Participants will walk away understanding what's new and what is no longer taught at the first-grade level. We will share resources that match the new standards so you can walk away feeling comfortable teaching the NEW GA standards.

**74 Get Your Math Class Talking (Grades 3-5)**

*Monique Johnson, Fulton County Board of Education*

Math teachers in grades 3-5 will learn strategies on facilitating student discourse and how posing purposeful questions can support student understanding and mastery.

**75 Facilitating a Collaborative Planning Environment (Grades 9-12)**

*Cassie Koes, Creekview High School*

This session describes how two high school mathematics teachers grew from strangers into a collaborative planning team. Presenters will share their journey of collaborative planning, advice on intentional habits that encourage open minds and effective planning sessions, useful planning tools, and suggest potential structures for collaboration.

**76 Math is Play: Developing Mathematical Mindset through Games (General Interest)**

*Seyoung Holte, Northeast Georgia RESA, & Brian Coffey, MIND Research*

Our brain lights up when we play games. What does it have to do with learning mathematics? A whole lot! In this session, we will explore the characteristics and benefits of good games, connections between game-playing and mathematical reasoning, and ways to build spatial, visual, temporal reasoning that are essential for mathematical problem solving as we play various interactive, hands-on games.

**77 Geometric Approach to the Concept of Limit Using the Method of Exhaustion (Grades 9-HE)**

*Kelli Slaten, Georgia Gwinnett College*

This presentation will focus on a geometric approach to the concept of limit using Archimedes' method of exhaustion for approximating the area of a circle. This method allows students to visualize the process of finding the areas of curved figures and prepare them for the more formal methods used in calculus.

**78 Early Numeracy Ideas with Numberblocks and Other Resources (Grades K-5)**

*Angie Meredith, hand2mind*

Numberblocks are great for building number sense. See how young learners can master key early learning math skills through hands-on discovery. Door prizes!

**79 D.I. in the Math Classroom (General Interest)**

*Brenice Brown, Warner Robins High School*

Do you struggle to reach all your students? Math classrooms are a mosaic of interests and abilities. It is imperative that educators ensure that all students are learning. This presentation will model easy strategies to reach ALL students using Differentiated Instruction.

**80 Ask-Collect-Analyze-Interpret: Statistical Reasoning for Action (Grades K-5)**

*Susan Cannon, Susie Morrissey, and Brittney Castanheira, Mercer University*

We model guiding questions for each stage of the statistical reasoning framework with adaptations for each elementary grade level.

**81 Math at Your Own Pace (Grades K-12)**

*Bobby Brian Lewis and Kelli Campbell, Bibb County School District*

Explore how we can do math at your pace with Lumio. Homework, classwork, learning at your own pace. Discover how we can provide student choice and voice with pacing to ensure all students get what they need. Personalized Learning for each student. We will also experience how this looks in a classroom.

**82 Empowering Students for Financial Well Being (Grades 4-12)**

*Basil Conway, Columbus State University*

This session will focus on the power of interest mathematically and socially. Participants will use google sheets to grapple with compound interest through mutual funds and mortgages.

**83 Purposeful Exploration through the Lens of STEM (Grades 4-12)**

*Shelly Baumann, Big Ideas Learning*

Students develop their mathematical skills through STEM connections by connecting math to the real world. Repeat of an earlier session.

**84 Movement in Mathematics (Grades K-5)**

*Dyanna Motes, Kemp Elementary School*

Get moving to increase student motivation and engagement! Participants will learn how to transform an ordinary classroom into movement-based instruction and ways to use movement-based strategies in whole group and small group instruction.

**85 Bringing Math Alive: Connecting and Analyzing Data (Grades 9-12)**

*Dennis Wilson, Landmark Christian School*

We will collect and analyze data to determine lines of best fit and choose models. We will explore helping students build an understanding of distance and time.

**86 Dive into STEM: A Sea Turtle's Journey (Grades K-5)**

*Miranda Westbrook, Metro RESA*

In this session, participants will engage in a STEM challenge that investigates the dangers that sea turtles face from the egg through adulthood. Participants will explore opportunities across K-5 for integrating science, mathematics, and technology into project-based learning. In the final part of the session, participants will use the engineering design process to develop a prototype that protects sea turtle eggs from harm. *Session repeats on Friday.*

**87 I Got To Do This With My Kids! 25 Clever Activities on TI-84 (Grades 4-HE)**

*Tom Reardon, Fitch High School & Youngstown State University*

Great teaching and learning ideas. Website contains student and teacher PDFs, and a 2-minute video of each activity. Algebra 1 to Calculus.

**88 Game Show Mania! Simulations for Your Classroom (Grades 4-12)**

*Sharon Taylor, Georgia Southern University*

Participants in this session will actively engage in three simulations designed to explore probability ideas from three game shows. Pairs of participants will play The Price is Right Dice Game, Let's Make A Deal Three Aces, and Deal or No Deal. Discover probability concepts associated with each game and how to incorporate them into your classroom.

## Session 5: 3:45-4:45 PM

### **89 Reimagined: Algebra 1 with Thinking Classroom Tasks (Grades 9-12)**

*Peter Anderson and Hope Phillips, Columbus Regional Mathematics Collaborative*

Teachers: Are you unsure how state standards are covered using rich tasks? Well, have we got a list for you! Join us and see how this work (and leave with tasks matched to state standards.) Then, come ready to work and share and learn. Finally, ask those thinking classroom questions you have been wanting to ask.

### **90 Get Up, Stand Up: Learning Math in Social Networks (General Interest)**

*Sean Kavanaugh, 360 Degree Math – Featured Speaker*

Over the past three decades we have experimented with various Math curriculum and seen numerous iterations of Math state/national standards. However, when you step inside most Math classrooms across the country we continue to see students sitting in rows working in isolation. The impact of changing curriculum and standards can be debated, but the undeniable need to radically change how we teach and learn Math has never been more important in education. In this session, you will learn how to create a Math classroom environment built around how kids learn today. Teachers, coaches, and leaders will learn the value of increasing the amount and variety of independent practice as well how students engage in the work. *Session repeats each time slot on Thursday.*

### **91 Reimagining the Recruitment of Future Mathematics Teachers (General Interest)**

*Margo Alexander and Naomi Jessup, Georgia State University*

*Deborah Johnson, North Atlanta High School*

This session will reimagine and detail the outreach and recruitment program of future mathematics teachers (Pre-K - 12). The program uniquely prepares to introduce high school students to the challenges, opportunities and rewards of a career in teaching, particularly in the area of mathematics.

### **92 Reimagining Tasks through Playful Mathematics (Grades 4-12)**

*Anna Bloodworth, Dru Horne, and Amy Ellis, University of Georgia*

We will explore a set of graphing tasks and how to playify the task to increase student engagement while maintaining a focus on the mathematics content.

### **93 Expressions that Play Together! Solving Equations on the Double Number Line (Grades 6-12)**

*Chariese Crawford and Katie Ruff, Carnegie Learning, Inc.*

Have you ever thought to yourself, that no matter how many times I show my students how to solve equations, the 'steps' just won't stick?!? In this session, we will explore equation solving using a double number line. Participants investigate the number line to begin to perform basic integer operations, modeling two-step equations and solving for the unknown. Join me in deepening your understanding of equation solving and number lines.

### **94 Supporting Culturally Responsive Pedagogy with IM K–5 Math™ (Grades K-5)**

*LaToya Byrd and Dionne Aminata, Illustrative Mathematics*

Districts across the country are addressing inequities in math education by implementing culturally relevant and responsive pedagogy. In this session, we will highlight the design features of IM K–5 Math™ that support this effort.

**95 Patterning Tasks and Quadratics: Two Distinct Flavors (Grades 9-HE)**

*Vince Kirwan, Kennesaw State University*

Two distinct quadratic patterning tasks, original student work, common challenges, and implementation strategies will be shared.

**96 Transitioning Secrets for the New Advanced Algebra (Grades 9-12)**

*Rebecca Gammill, Kennesaw Mountain High School*

Come get an overview of the Advanced Algebra standards that will be added in 2023. Do you know the difference between a population distribution, sample distribution, and sample data distribution? Do you have the tools you need to teach linear programming? Would you like a refresher on the unit circle? This session will provide practice resources to use in the new Advanced Algebra curriculum.

**97 Developing an Understanding of Addition of Decimals to Hundredths (Grades 4-8)**

*Jitorria Harris and Heidi Eisenreich, Georgia Southern University*

This presentation will focus on the importance of place value when adding decimals. We will use precise language and base 10 blocks to facilitate a deeper understanding of decimal addition.

**98 Help, My Math Students are Bored! (Grades K-8)**

*Brian Coffey, MIND Research*

What does active learning look like? We know that technology alone isn't the answer. Many educators use a variety of edtech programs in their class that "check the boxes" (adaptive, personalized, standards covered, etc.), but are their students truly active participants in their learning? Come learn about how ST Math uses the brain's perception-action cycle to allow students to be active learners of math. Be prepared to solve puzzles and be challenged!

**99 Break the 'Forgetting Cycle' with Get More Math (Grades 4-12)**

*Josh Britton, Get More Math*

How can we break the forgetting cycle and make math stick? Josh Britton will share the Get More Math system for driving long-term retention.

**100 Manipulative Mania! (Grades K-8)**

*Jane Hannon and Leanne Luttrell, hand2mind, and Ryan Dougherty, BrainingCamp*

Explore manipulative tasks in a "free choice" format. Experience how to tap into student thinking and promote productive struggle. Prizes all around!

**101 Refocus Student Engagement to Increase Student Success (Grades 9-12)**

*Ashley Clody, Cobb County School District*

Do you feel like a hamster constantly running on a wheel to get students engaged in mathematics? Do you need to refocus your instruction on student engagement? Come experience some strategies and activities that can help refocus your instruction to increase student engagement and success in your mathematics classroom.

**102 Mathematical Modeling: Engage Your Reluctant Learners (Grades K-12)**

*Julia Pelt and Jenna Harden, Savvas Learning Company LLC*

Let's get messy and have fun with Mathematical Modeling! We'll discuss some ideas for getting your students engaged in the Mathematical Modeling Cycle and the Standards for Mathematical Practice. This interactive session leverages 3-Act Math to get you thinking about how to provide a space for students to be the authors of their own ideas. Walk away with mathematical modeling resources to use in your classroom!

**103 RACE: A Problem-Solving Method that Promotes Equity (Grades K-5)**

*Rita Williams, FINE-TUNE*

Students need ongoing practice and scaffolds to solve problems and complete constructed responses proficiently. FINE-TUNE's RACE is a graphic organizer that will help this effort. Additionally, RACE challenges spaces of marginality because it advocates culturally-relevant word problems, encourages multiple representations, promotes discussion, and requires reasoning to communicate solutions.

**104 Developing Mathematical Discourse through Classroom Routines (Grades K-12)**

*Renee Owen and Joshua Nelson, Henry County School District*

Participants will engage in classroom routines to discover how they can develop mathematical discourse with their students. Best practices for questioning and implementing routines will be discussed. Participants will be provided with resources they can use immediately in their classrooms.

**105 Movement-Based Resources for K-5 Math Instruction (Grades K-5)**

*Tracey Wiley, Georgia Public Broadcasting*

Join GPB Education for an introduction to movement-based approaches for teaching elementary math. Explore some of the free math movement videos and lesson plans available to all educators and students from PBS LearningMedia and model math-in-motion teaching and learning strategies that have been successfully implemented in general and special education elementary classrooms!

**106 Hitomezashi Sashiko Stitching and Coding in Basic and Python (Grades 4-HE)**

*Debbie Poss, GCTM*

Hitomezashi and Sashiko are beautiful traditional Japanese stitching patterns. Come see if you can determine the patterns and write programs to model them.

**107 Input and Output: Using LEGO Robots to Understand Functions (Grades 4-12)**

*Shelli Casler-Failing, Georgia Southern University*

Participants will use a LEGO robot to collect data, determine if the data set represents a function, and if so, determine the function.

**108 Best Practices in AP Statistics (Grades 9-12)**

*David Hornbeck, Rockdale Magnet School for Science and Technology*

I will provide AP Statistics teachers with guided notes, dynamic statistical applets, popular activities, suggested course layout, and ways of teaching particularly difficult concepts. Though good for new teachers, experienced teachers could learn as well.

**109 Get Your Math Tech Together (Grades 4-8)**

*Ambie Watson, Get Your Tech Together*

Technology is often the hardest to implement in a math classroom. However, technology can make your job easier! Learn how to use Google Suite to enhance your math classroom.

Are you ready for some fun?  
Join us for PE at GMC!







Friday, October 21, 2022

## Friday, October 21<sup>st</sup> Planner

Time	Session Options (List top 3 options)	Location	Speaker
8:30 AM - 9:30 AM	Keynote	Talmadge Auditorium	Dr. Beatrice Luchin-Moore
9:45 AM – 10:45 AM	Session Option 1		
	Session Option 2		
	Session Option 3		
11:00 AM – 12:00 PM	Session Option 1		
	Session Option 2		
	Session Option 3		
11:30 AM – 1:00 PM	<i>Lunch (pre-purchased or cash-only Cookout)</i> <i>Visit the Exhibitors in Sutton Hall</i>		
1:15 PM – 2:15 PM	Session Option 1		
	Session Option 2		
	Session Option 3		
2:30 PM – 3:30 PM	Session Option 1		
	Session Option 2		
	Session Option 3		

### Are you good at capturing the moment?



Take pictures of mathematical activities in a session, of you and friends participating in a session, or of anything else fun that you do at Rock Eagle! Share your experience with us on social media at #GCTM2022



Friday, October 21, 2022

## Session 1: 9:45-10:45 AM

### **110 Grades 4-5 "GCTM Summer Math Academy" in a Flash (Grades 4-5)**

*Paulette Shoupe, Coastal Plains RESA*

If you were unable to attend the GCTM Summer Math Academy, feel free to join us for a recap as we explore tasks that promote reasoning and problem solving, and become familiar with the GA's new K-12 Math Standards.

### **111 Embrace Cultural Relevance with Mathematical Decision-Making (General Interest)**

*Jordan Moreno and Eryn Maher, Georgia Southern University*

We share and implement a multi-step strategy for adapting tasks by opening contexts to student decision-making and exploration.

### **112 Overworked Teachers? Saving time is Just the Beginning! (Grades K-12)**

*David Wilkerson, Boardworks Education*

Boardworks is a tool that supports teachers by giving them access to ready-made interactive math content at all levels that lessens the burdens of planning differentiated instruction.

### **113 Mathematical Reasoning and Sense-Making in High School (Grades 9-12)**

*Kenneth Golden, Georgia Department of Education*

Join us to learn more about the high school mathematics standards, progressions, resources, and instructional strategies. The session will focus on the benefits of incorporating the mathematical practices, mathematical modeling, and statistical reasoning. Key resources for planning for the implementation of Georgia's K-12 Mathematics Standards in 2023-2024 will be shared, including personalized mathematics pathways for acceleration and support.

### **114 Eight Ways to Develop a Growth Mindset in Mathematics, Mathematical Identity, and Promote Self Esteem (General Interest)**

*Beatrice Luchin-Moore – Keynote Speaker*

Developing a “growth mindset” has been at the heart of many education initiatives in the past decade. The growth mindset message, however, could lead pupils to develop mental health problems unless it is carefully presented. Effort alone can never guarantee results. Why? Because students' aspirations may not fit their abilities, and/or access to opportunities, luck or other circumstances. Participants will learn strategies that are simple to use and empower students in the area of growth mindset, positive self-esteem and mathematical identity.

### **115 You Can Do It: Embracing Productive Struggle to Empower Students (General Interest)**

*Alesia Moldavan and Montana Smithey, Georgia Southern University*

This session addresses teacher actions to encourage productive struggle that empower students to overcome challenges and engage in meaningful problem-solving.

### **116 Standards-Based Grading in an AP Course (GA<sup>2</sup>PMT)**

*Dan Butler, Vicki Greenberg, and Bob Amar, The Lovett School*

Grades can motivate students to keep learning! Come learn about SBG! We will open with a brief discussion of Standards Based Grading and our implementation in our AP Calculus and AP Statistics classes. We will then move to a panel discussion format to address your thoughts and questions.

Friday, October 21, 2022

**117 Navigating Teaching AP Post Pandemic (GA<sup>2</sup>PMT)**

*Henry Oglesby, Woodstock High School*

Come join our GAAPMT Panel as we discuss how teaching has changed because of the pandemic. What strategies have you kept as a result of teaching during the pandemic? What are you glad to see go? How are you addressing any learning gaps with your students in the fall? How are you closing out the year as you prepare for the exam? All this and more will be discussed!

**118 Mathematics, Science, & Robots: Integrating STEM into Math Tasks (General Interest)**

*Lorraine Franco, Anna Gillespie-Schneider, Barbara Crawford, University of Georgia*

Join us for discussion on how to integrate coding, robotics, and science into mathematics tasks. Come play with robots and see examples of STEM integrated math tasks.

**119 The I'm W.O.K.E. Project: A Systemic Approach to Access & Equity in Math (Grades K-12)**

*Tonya Clarke, Charlene Matthew, and Tiffanie Nealy, Clayton County School District*

The Clayton County Mathematics Department put social justice and equity in the hands of the students using mathematical models to analyze social issues and a systemic structure that empowered the educators to implement the tools that promote equity and access in mathematics. The I'm W.O.K.E. project makes math matter for all students every day.

**120 Using Area Models for Multi-Digit Multiplication and Division (Grades 4-8)**

*Isabella Fairlamb, Gwenyth Masch, and Heidi Eisenreich, Georgia Southern University*

*Ha Nguyen, University of California - Dominguez Hills*

We will explore using area models to help students develop an understanding of multi-digit multiplication and division. We will make connections between the structure of the area model and the two operations.

**121 Developing Problem Solvers Not Problem Performers (Grades K-5)**

*Angie Meredith, hand2mind*

Explore ways to help your students become problem solvers. Using different types of problems help students focus on understanding. Door prizes!

**122 More Choice More Voice (Grades K-8)**

*Julia Pelt and Jenna Harden, Savvas Learning Company LLC*

Helping students find their voice is a fundamental habit that needs to be promoted and established in the classroom. This session will leverage the research on how giving students choice in the classroom empowers them to find their voice and become active, engaged members of the classroom community. Walk away with resources to make this happen in your classroom!

**123 Taste of a Summer Academy: Modeling with Mathematics and Sense Making (Grades 6-8)**

*Seyoung Holte, Northeast Georgia RESA*

Did you miss this year's GCTM Summer Academy? Welcome to Taste of Summer Academy at Rock Eagle! In this session, we will explore how to promote reasoning and sense making through mathematical modeling in the middle grades.

**124 Real Data, Real Tools: Bringing Relevance to Your Statistics Class (Grades 9-HE)**

*Dianna Spence and Gregg Velatini, University of North Georgia*

Universities and employers increasingly expect students to have proficiency with real data and real tools. We introduce learning activities using R and Python; these free modern tools flexibly and easily manage large, messy, real data sets and create effective visualizations. We introduce each environment, guide participants through interactive lessons, and provide lesson materials for classroom use.

**125 Understanding Unit Rates and Slope Using LEGO Robots (Grades 4-12)**

*Shelli Casler-Failing and Erin Schmidt, Georgia Southern University*

Using a LEGO robot, attendees will collect data for an investigation into the relationship among unit rates, rate of change, and slope. *Repeat of a Thursday session.*

**126 Engaging Tasks to Encourage Student Thinking (Grades K-8)**

*Margaret Rebman, Big Ideas Learning*

Organize learning experiences that promote critical thinking. *Session repeats later in the day.*

**127 Dive into STEM: A Sea Turtle's Journey (Grades K-5)**

*Miranda Westbrook, Metro RESA*

In this session, participants will engage in a STEM challenge that investigates the dangers that sea turtles face from the egg through adulthood. Participants will explore opportunities across K-5 for integrating science, mathematics, and technology into project-based learning. In the final part of the session, participants will use the engineering design process to develop a prototype that protects sea turtle eggs from harm. *Repeat of a Thursday session.*

**128 Logging Without Logs (Grades 4-HE)**

*Suzette Hermann, Pickens High School, T<sup>3</sup> Instructor*

Investigate multiple concepts in algebra, geometry, trigonometry, and forestry calculations using tree measurements and/or estimations. Volume formulas, functions, multiple representations, similarity, and trig ratios along with board feet calculations will be vertically aligned and integrated to fit different levels and interests of students.

**129 Instilling a Growth Culture: Activities to Help Develop a Growth Mindset (Grades 4-12)**

*Michelle Ihrig, Cobb County School District*

Dr. Michelle Ihrig covers six strategies she uses to help students develop a growth mindset. Topics include remembering the good story, disconnecting from technology, staying away from poisonous drama and understanding how they learn. Participants will discover if they are a paperclip, teddy bear, magnifying glass, or slinky and why that matters for your student growth.

**130 No More Isolation (Grades 9-12)**

*Angel Abney, Doris Santarone, and Brandon Samples, Georgia College and State University*

This session will help teachers reimagine the teaching and learning of mathematics by demonstrating a lesson that integrates several New Georgia Mathematics Standards rather than teaching these as isolated topics. We will focus on the conceptual development of modeling data-driven functions, including linear and quadratic. *Repeat of a Thursday session.*

**131 Fun with Technology: Exploring Algebra 1 through Statistical Software (Grades 8-12)**

*Dione Maxwell, Loganville High School*

Attendees will take a look at the Statistics standards within Algebra 1 in preparation for next year's roll out. We will use an interactive statistical applet along with CODAP (Common Online Data Analysis Platform) to explore the standards in depth by working through age-appropriate tasks for students in 8th and 9th grade Algebra 1.

Friday, October 21, 2022

## Session 2: 11:00 AM-12:00 PM

### **132 Add Some Jam to Your Lesson Plans: Increase Engagement with Jamboard (Grades 4-12)**

*Gayle Herrington, Woodland High School*

Participants will get familiar with Google Jamboard viewing student samples that model ways to collaborate, communicate, and demonstrate mathematical understanding. Participants will create a Jamboard to be used in their own classroom.

### **133 Math 911: Strategies to Help Student Master Mathematics (Grades 4-8)**

*Sandra Scroggins, Scroggins Mathematics Services*

This number theory session includes formal and informal means of helping teachers learn new skills in how to teach finding factors, GCF, & LCM. Teachers will develop new insights into pedagogy and teacher practice.

### **134 Using What Students Already Know to Learn Mathematics (Grades K-5)**

*Montana Smithey, Lauren Akers, and Alesia Moldavan, Georgia Southern University*

Students learn best when they connect new information to what they already know. Strategies incorporating students' backgrounds into math tasks will be shared.

### **135 Mathematical Modeling in Middle Grades: The Runway to Reasoning! (Grades 6-8)**

*Kenneth Golden, Georgia Department of Education*

The focus of this session will be on strategies to develop reasoning through an understanding of the mathematical modeling framework. Join us as we seek to provide students with context from open-ended and "messy" problems! Key resources for planning for the implementation of Georgia's K-12 Mathematics Standards in 2023-2024 will be shared.

### **136 Make Learning Stick: Strategies to Support Engagement, Understanding, and Retention (General Interest)**

*Beatrice Luchin-Moore – Keynote Speaker*

Participants will learn 7 brain-based ways to reimagine the instructional cycle, increase student engagement, and create a culture of feedback-therefore boosting retention rates.

### **137 Blended Learning for the Inclusion Math Classroom (General Interest)**

*Allie Beldin, Columbia County Board of Education*

This session will demonstrate how to use blended learning strategies to support students in an inclusion Math setting. Participants will explore educational technology such as the Quizizz lessons feature that creates opportunities for a student-centered learning environment. *Repeat of a Thursday session.*

### **138 Stapplet and the Thinking Statistics Classroom (GA<sup>2</sup>PMT)**

*Bob Amar, The Lovett School*

You may have already used the applets and activities at stapplet.com in remote, hybrid, or 1:1 settings in conjunction with EFFL (Experience First, Formalize Later) lesson design to bring statistical ideas to life for your students. Hopefully, you are also really excited about implementing the teacher moves and mindsets in Dr. Peter Liljedahl's *Building Thinking Classrooms in Mathematics* in your own practice. In this session, we'll explore how Stapplet's design can help you facilitate rich thinking tasks, free exploration, and information mobility to bring your own thinking classroom to life. As a bonus, we'll also take a look at some newly-created Stapplets for demonstrating complex concepts, including BAPS (Beyond AP Statistics) ideas.

**139 Insider Information on AP Precalculus and HACT Resources (GA<sup>2</sup>PMT)**

*Bekki George*

In this session, Bekki George will discuss how the content and ordering of the new AP Precalculus curriculum was developed, beginning with brainstorming sessions to outline the finished product. She will also provide information on how to access the University of Houston's practice materials for AP math courses, discuss how to use the online quizzes as given or use them to make your own exams, and demonstrate other free material such as the online videos.

**140 Endless Possibilities: Student Choice in the Classroom and Assessment (Grades 9-12)**

*Miranda Hull, Marietta High School*

The session will address how student choice has motivated students in the classroom. Student choice allowed our students to feel they had a say in their learning, not just in everyday activities, but how they were assessed. It was data driven, with every feedback survey taken into account. We learned what units worked best with GSE standards and continue to strive to improve. We look forward to continuing our work as we crosswalk to the new standards. *Repeat of a Thursday session.*

**141 Math Tasks that Foster Engagement and Discovery (Grades 9-12)**

*Tashana Howse, Georgia Gwinnett College*

This session will provide attendees with a snapshot of what to expect with the change in standards as well as the instructional shifts that are necessary to ignite student engagement and agency in the mathematics classroom.

**142 Using Argumentation to Foreground Mathematics in STEM Teaching (Grades K-12)**

*Claire Miller, Aida Alibek, and Tim Foutz, University of Georgia*

Learn how using collective argumentation in integrated STEM tasks can focus students on key mathematical ideas and improve their reasoning skills.

**143 Fluency Intervention in 10 Minutes a Day! Really? (Grades 3-8)**

*Jane Hannon, hand2mind*

Come experience how to provide targeted instruction that will increase numeracy skills in students struggling with core concepts. Door prizes!

**144 Leveling Up: Creating an Academically Challenging Environment (Grades K-12)**

*Jamesa Broome and Ann Vitello, Richmond Hill Middle School*

Want your students to be engaged from the beginning of class to the end? Want to incorporate some of those fun tasks we don't seem to have time for? Come and join us and see how we utilize our leveling up system. This system incorporates differentiated learning with engaging tasks and extrinsic motivation for completing levels. *Repeat of a Thursday session.*

**145 Developing Algebraic Thinking Using the Area Model from Kindergarten to High School (Grades K-12)**

*Renee Owen and Joshua Nelson, Henry County School District*

Participants will follow the development of algebraic thinking from Kindergarten through High School. The CRA framework will be used to promote the vertical alignment of the area model and other algebraic properties as participants work through problems at all levels. Participants will walk away with resources and strategies they can use immediately in the classroom. *Repeat of a Thursday session.*

Friday, October 21, 2022

**146 Reimagining Student Engagement: Tools for Argumentation (Grades 4-12)**

*Shaffiq Welji, James Drimalla, AnnaMarie Conner, and Ngutor Tembe, University of Georgia*

Learn to improve student engagement in classroom argumentation. Take away examples of questions and tasks to improve your facilitation of argumentation.

**147 Addressing Neurodiversity by Adapting Math Tasks (General Interest)**

*Dakota Martin and Eryn Maher, Georgia Southern University*

Addresses how teaching neurodiverse students to use one procedure forces some to work harder, and how to open tasks to correct this issue.

**148 Bringing Literature and Music into Your Math Classroom (Grades K-5)**

*Amanda Shelley, Big Ideas Learning*

Incorporating literature and music into your math classroom helps students see that math surrounds them in everyday life. Big Ideas Math's own Newton and Descartes team up in Math Musicals - educational stories, songs, and animations that enhance student learning. *Session repeats later in the day.*

**149 Numeracy Project for ALL (General Interest)**

*Jody Boutwell and Christi Buffington, Floyd County Schools*

We have the tools you need to grow students, scaffold grade level instruction, and fill those COVID gaps! We will dive into the Numeracy Project: the assessments, the progress monitoring component, and the activities. You will leave ready to implement it in your classroom on Monday. Resources will be shared from all over the United States, so please bring a device if possible. *Repeat of a Thursday session.*

**150 Data Decisions: There's an App for That! (Grades 4-8)**

*Sherrina Clark, Pinckneyville Middle School*

Come see how the TI-Nspire apps can transform your data into displays that efficiently and effectively allow students to make decisions. No more time consuming labeling and coloring, just analyzing and decision making all with the push of a few keys!

**151 Free Tech Tools to Increase Engagement in Various Settings (General Interest)**

*Michelle Ihrig, Cobb County School District*

Dr. Michelle Ihrig will highlight some of her favorite free tools to increase student engagement. Come prepared to play games! We will cover Kahoot! (for instruction and assessment), Quizizz, EdPuzzle, Blooket, ProdigyGame (1st-8th), Delta Math (8th-12th grade) and Classkick.

**152 Doing "THE MOST" with DESMOS: Using Activity Builder (Grades 4-12)**

*Christian Kendrick, Woodland High School*

Learn to enhance your lessons using Desmos Activity Builder. During this session, you will learn about the multiple interactive components that can be used to increase engagement and rigor in your lesson as well as view the lesson as both teacher and student. You will need a FREE teacher account to engage and interact during the session.

**153 Evidence-Based Math Strategies for Students with Learning Disabilities (Grades K-5)**

*Olga Lapteva, Liberty University*

I will discuss what Mathematics Learning Disability (Dyscalculia) is and characteristics of students who struggle with mathematics. Research suggests that calculations and word problems are distinct forms of mathematics learning disabilities (Fuchs et al., 2018). Then, I will discuss evidence-based mathematics strategies for elementary-school students that can be implemented in one-on-one or small group settings.





Friday, October 21, 2022

## **Session 3: 1:15 - 2:15 PM**

### **154 Opening Your Classroom to Mathematical Modeling (Grades K-8)**

*Michael Wiernicki, Georgia Department of Education*

In this engaging session, participants will learn how to incorporate mathematical modeling into their mathematics classrooms. Teachers will identify what mathematical modeling is, what to look for in mathematical modeling problems, and where to find them.

### **155 Math and Music, Plus Edible Equations (General Interest)**

*Gretchen Torbert, Educational Advancement Group*

Through the process of Guided Math, participants will work to solve edible equations and create jingles to teach students the simplicity of solving complex mathematical problems. Participants will be given an example through direct guidance and then they will be able to create one to share. The Math and Music, plus Edible Equations sessions is a renewed way to enjoy learning math.

### **156 Reflecting on Culture and Tasks with Secondary Preservice Teachers (Grades 9-12)**

*John Bragelman, University of North Georgia; Ethan Pierce, White County High School; Colleen Walden, South Forsyth High School; Reagan Horton, East Forsyth High School*

A teacher educator and former preservice teachers reflect on mathematics task analyses using cognitive demand and culturally relevant pedagogy.

### **157 Developing Equitable Classroom Practices and Policies (Grades 9-12)**

*Kelly Kulp, University of Georgia*

We will think about and share classroom policies while considering how these policies may support or hinder various populations of students.

### **158 Maximizing Math Instruction with a Focus on Reasoning Skills (Grades K-8)**

*Heather Elliott, Christine Carter, and Mandy Kelly, Carrollton Upper Elementary School*

This session will show how to use Math Workshop while spiraling in yearly content and building a classroom community of independent thinkers. We will share how restructuring our classrooms to conceptually teach mathematical concepts lends itself to the rise in student learning, post pandemic. This will be a hands-on session as we walk through Math Workshop. *Repeat of a Thursday session.*

### **159 Teaching Problem Solving to ALL Students (Grades K-5)**

*Angela Campana, Accelerate Learning*

Teaching students to reason and problem solve is the cornerstone of quality math instruction. This session will highlight several engaging strategies such as Three Reads, Numberless Word Problems, and more. Help students engage in math and ignite a passion for problem solving in your classroom!

### **160 Report from the AP Statistics Reading (GA<sup>2</sup>PMT)**

*Vicki Greenberg and Bob Amar, The Lovett School*

*Lisa Stevenson and David Custer, City Schools of Decatur*

The Free Response questions from the 2022 AP Statistics Exam will be discussed. Experienced AP Statistics exam readers will present the rubrics from the past summer's reading. They will also discuss common student mistakes on the exam and give tips and suggestions to help your students avoid making these mistakes in the future.

*Note: Session runs from 1:15-3:30PM.*

Friday, October 21, 2022

**161 Report from the AP Calculus Reading (GA<sup>2</sup>PMT)**

*Marshall Ransom, Georgia Southern University; Chuck Garner, Rockdale Magnet School; Dennis Wilson, Landmark Christian Academy*

The Free Response questions from the 2022 AP Calculus Exam will be discussed. Experienced AP Calculus exam readers will discuss the questions and scoring guidelines from the past summer's reading. They will also discuss common student mistakes on the exam and give tips and suggestions to help your students avoid making these mistakes in the future.

*Note: Session runs from 1:15-3:30PM.*

**162 Using Multiple Representations to Make Connections in Algebra (Grades 4-12)**

*Ashley Boyd, CPM Educational Program*

Find connections between a rule, graph, table and context. These representations are only tools. The connections make them powerful. Learn ways to help students move from each representation to the others.

*Repeat of a Thursday session.*

**163 Reimagining Base 10 Blocks to Solve Decimal Subtraction (Grades K-8)**

*Abigail Lorden and Heidi Eisenreich, Georgia Southern University*

This session will focus on regrouping with manipulatives for decimal subtraction. Base 10 blocks will be utilized throughout the session to clearly show the connections between Concrete, Representational and Abstract while performing decimal subtraction.

**164 New Takes on Discourse: Exploring Black Language in Math Learning (General Interest)**

*Nickolaus Ortiz, Georgia State University*

The session will focus on three main areas: a) articulating what Black Language is, b) exploring the significance of language and discourse in mathematics learning, and c) brainstorming ways to honor Black Language in mathematics classrooms. *Repeat of a Thursday session.*

**165 Family Engagement: A Key to Student Success (Grades K-5)**

*Angie Meredith, hand2mind*

Students succeed in school when they have family support. Experience some great resources to assist with family engagement. Door Prizes!

**166 Taste of the GCTM Summer Math Academy: Addition and Subtraction Strategies (Grades 2-3)**

*Ginny Baldwin, Reinhardt University*

Take a deep dive into addition and subtraction by exploring the "new" Georgia Math Standards for 2nd and 3rd grades. Participants will have the opportunity to explore a variety of hands-on tools, representations, and games to support student learning. *Repeat of a Thursday session.*

**167 The Power of Social-Emotional learning in Supporting Students (General Interest)**

*Omar Sillah, Mercer University*

We will highlight the benefits of incorporating social-emotional learning (SEL) in mathematics classes. Then we will discuss strategies for incorporating SEL to support the social and academic needs of marginalized students.

Friday, October 21, 2022

**168 Growing Our Profession: Mentoring Novice Teachers, Part 1 (Grades 6-12)**

*Blake Mooney, Oconee County High School; Heather Julian, Clarke Central High School; AnnaMarie Conner and Kelly Edenfield, University of Georgia*

Effective mentoring of young teachers, including student teachers, is important for novice teachers' growth and resilience. Come hear about the University of Georgia's secondary mathematics student teaching program and work on developing a variety of mentoring skills. This first session will focus on using observations as an opportunity to collect data and helping novice teachers use the data to reflect on their practice.

**169 Secondary Teacher Candidates: Bringing Math to Life (Grades 6-12)**

*Sharlonne Smith, Brandon Esquivel, and Allison Weaver, Dalton State College*

This session will address methods, strategies, and lesson planning implemented by secondary teacher candidates in mathematics classrooms.

**170 Bringing Literature and Music into Your Math Classroom (Grades K-5)**

*Amanda Shelley, Big Ideas Learning*

Incorporating literature and music into your math classroom helps students see that math surrounds them in everyday life. Big Ideas Math's own Newton and Descartes team up in Math Musicals - educational stories, songs, and animations that enhance student learning. *Repeat of an earlier Friday session.*

**171 Making Math Immersive with the Performing Arts (General Interest)**

*Evans Harrell, Georgia Institute of Technology; Jamey Smith, Rockdale County High School*

Games and performing arts can engage students who don't think of themselves as liking math. Mathematics can be embedded in such activities to introduce concepts in project-learning formats, allowing collaboration and differentiation. Teachers at Rock Eagle will participate in activities including "Math court" and learn about classroom experiments and resources.

**172 Transformation Graphing and 250+ Video Online Modular Course (Grades 4-HE)**

*Tom Reardon, Fitch High School and Youngstown State University*

Obtain e-flash cards of the parent functions, transformations. Transformations using composition of functions. All materials supplied.

**173 Creating Student Data Analysts to Increase Test Scores (General Interest)**

*Michelle Ihrig, Cobb County School District*

Dr. Michelle Ihrig shares strategies she implemented to teach students about data analysis and goal-setting. She outlines methods she used at middle school and high school levels at suburban, urban, and Title I schools to help students understand data, how data can connect to mastery, and the importance of setting goals. Come prepared to take a mini-test, set goals, and celebrate growth!

**174 Mathematics IS a Super Power (Grades K-5)**

*Kimberlee Mobley Outlaw, Clay Harmony Leland*

Sharing effective strategies to build young learners' confidence in their mathematical ability and enthusiasm for mathematical engagement through rapport, modeling struggle, medium variety, and familiarity with and celebration of diverse cultural backgrounds.

**175 Intervention Techniques for Grades 7-12 (Grades 7-12)**

*Jennifer Bortvit-Mapes, Bellevue School District, Bellevue, Washington*

Set your secondary school up for success with practical tips for intervention: streamlining assessments, targeted interventions, progress monitoring, and actionable reports.

Friday, October 21, 2022

## **Session 4: 2:30-3:30 PM**

### **176 The Power of Mathematical Reasoning (Grades K-5)**

*Michael Wiernicki, Georgia Department of Education*

Join us to learn more about the K-5 Mathematics Standards, how teaching through reasoning and problem-solving can impact the teaching and learning of these standards, and the benefits of incorporating the mathematical practices, mathematical modeling, and statistical reasoning. Key resources for planning for the implementation of Georgia's K-12 Mathematics Standards in 2023-2024 will be shared.

### **177 A Mindful Approach to Solving Word Problems (Grades 4-8)**

*Frank Schorn, NYC Department of Education*

Let's explore how to encourage students to take a slower and more mindful approach to math tasks and word problems, instead of quickly reacting to them.

### **178 Specialized Supports for Students (General Interest)**

*Jenise Sexton, Georgia Department of Education*

The search for resources to provide effective supports for learning mathematics ends here. In this session, participants will learn about specific evidence-based strategies and specialized supports to address learner variability.

### **179 Experience a Thinking Classroom! (Grades 4-HE)**

*Stefanie Frey and Lisa Sill, Greenbrier High School*

Join us as we demonstrate what a Thinking Classroom looks like at the high school level. This interactive hour will be packed with strategies that you can implement immediately, all based on Peter Liljedahl's research. Be sure to attend the Thursday morning keynote so you can get a glimpse into this mathematics education movement. *Repeat of a Thursday session.*

### **180 Enhancing Mathematical Instruction with Models and Manipulatives (Grades K-8)**

*Angela Campana, Accelerate Learning*

Students learn best as they verbalize and discuss mathematical thinking through the use of manipulatives. Come explore how students can work collaboratively and transform their learning through the Concrete, Pictorial, and Abstract (CPA) approach by using models and manipulatives in classrooms.

### **181 How Confident are You with Statistics in Advanced Algebra?? (Grades 9-12)**

*Dione Maxwell, Loganville High School*

This session will help Advanced Algebra teachers to understand how being given a margin of error leads to developing and comparing confidence intervals of various models. We will use technology and/or simulations to help develop confidence intervals, and participants will then use those intervals to make conclusions about reliability.

### **182 Teaching Touchy Topics: Keeping It Real without Crossing Lines (Grades 9-HE)**

*Ryan Hoffpauir, Shelby Cloud, Emma Fouts, and Riley Mcentyre, Dalton State College*

In an increasingly partisan society, it is easy for mathematics teachers to focus just on facts and procedures. However, students need to be exposed to applications of mathematics in real situations that have divergent perspectives so that they can maintain informed opinions on societal matters. This session is about reflecting on some possible practices that may enable these conversations to take place in a safe environment for students and teachers alike. *Repeat of a Thursday session.*

Friday, October 21, 2022

**183 Fraction Essentials (Grades K-5)**

*Yolanda Coley, Sumter County Intermediate School*

This session will focus on developing fraction number sense for students. Methods discussed will include the importance of moving from concrete models to abstract concepts while maintaining authentic student engagement. Activities will range from meeting the needs of learners at various levels.

*Repeat of a Thursday session.*

**184 The Real R.E.A.S.O.N: Preparing students for the New GA K-12 Math Standards (General Interest)**

*Demetrius Nelson, Griffin Middle School*

Participants will learn the R.E.A.S.O.N. approach to preparing students to perform better as their respective school district implements the new GA K-12 Math Standards. Participants will gain rigorous question instruction examples that they can use to support the R.E.A.S.O.N. approach. *Please bring a laptop.*

*Repeat of a Thursday session.*

**185 How to Hit the Prerequisites (Grades K-5)**

*Danielle Crump, Blythe Elementary School*

As teachers, we always have learning gaps to fill. In math, those learning gaps can cause a student to continuously be left behind and struggling to pass. Listen to the needs of your students and fill in those gaps! Even if we take a little longer than the curriculum map suggests, we need to stop leaving kids behind or putting them aside.

**186 Growing Our Profession: Mentoring Novice Teachers, Part 2 (Grades 6-12)**

*Heather Julian, Clarke Central High School; Blake Mooney, Oconee County High School;*

*AnnaMarie Conner and Kelly Edenfield, University of Georgia*

Effective mentoring of young teachers, including student teachers, is important for novice teachers' growth and resilience. Come hear about the University of Georgia's secondary mathematics student teaching program and work on developing a variety of mentoring skills. This second session will focus on co-planning and co-teaching with novice teachers.

**187 Georgia's Framework for Statistical Reasoning (Grades 4-12)**

*Kaycie Maddox, Northeast Georgia RESA*

Come learn about the new Framework for Statistical Reasoning (FSR) and participate in its implementation with two exemplary tasks that are available for classroom use.

**188 Organize Learning Experiences that Promote Critical Thinking (Grades K-8)**

*Margaret Rebman, Big Ideas Learning*

Organize learning experiences that promote critical thinking. *Repeat of an earlier Friday session.*

**189 From Paper Folding to Proportional Reasoning: Demystifying Fractions & Proportions (Grades K-8)**

*Seyoung Holte, Northeast Georgia RESA*

In this session, we will explore the wonder of mathematical connections between the whole number reasoning and fractional reasoning and walk through the progression of fractional/proportional reasoning as we "DO" mathematics through unitizing, partitioning, and iterating. We will look for and discuss opportunities where Mathematical Practices are promoted and Effective Mathematics Teaching Practices are applied. *Repeat of a Thursday session.*

Friday, October 21, 2022

**190 Transitioning Through the New Curriculum with Transformations  
(Grades 9-12)**

*Debbie Poss, GCTM*

We will investigate the new mathematics curriculum and locate where the topic of transformations appears. We will then look at strategies to refocus and reimagine a smooth and logical transition for students to see the terminology, the applications, the importance and the logic behind transformations.

**191 Leveraging Khan Academy to Increase SAT Scores (Grades 9-12)**

*Michelle Ihrig, Cobb County School District*

Dr. Michelle Ihrig shares the strategies she used to increase student engagement and motivation to prepare for the SAT at a Title I school. Her two main strategies included leveraging Khan Academy's free SAT platform and instilling a growth mindset in students by student goal-setting.

**192 The STEM Behind Football: Is the Kick Good?**

**Modeling with Equations (Grades 4-HE)**

*Tom Reardon, Fitch High School and Youngstown State University*

Model the flight of a football with a graphing calculator and answer: is it good, maximum height of the ball, how far does the ball travel?

**193 Digital Interactive Notebooks (Grades K-12)**

*Mark Melody, Hubert Middle School*

Save time in your classroom by turning your interactive notebooks into digital versions using Google Slides and Google Classroom.

**Thank you for attending!**

**We look forward to seeing you next year for the  
64th Annual Georgia Mathematics Conference  
October 18-20, 2023**

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Both Sides of Sutton Hall

Thursday 9 AM – 4:30 PM

Friday 9 AM – 1 PM

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## Speaker Index by Session Number

Abell, S	58	Elliott, H	29, 158	Lanigan, D	60	Reardon, T	21, 65, 87, 172, 192
Abney, A	20, 130	Ellis, M	37	Lapteva, O	153	Rebman, M	126, 188
Alexander, M	91	Fairlamb, I	120	Lawler, B	35	Reed, A	70
Amar, B	138	Franco, L	118	Leach, A	4	Robinson, L	22
Anderson, P	89	Frey, S	71, 179	Lewis, B	81	Ruff, K	14
Baldwin, G	6, 48, 166	Gammill, R	96	Lewis, N	53	Schorn, F	177
Bandelet, C	64	George, B	139	Lorden, A	163	Scroggins, S	133
Bankston, A	72	Gerver, R	36	Luchin-Moore, B	114, 136	Sexton, J	178
Baumann, S	17, 83	Golden, K	113, 135	Lunzmann, S	50	Shelley, A	39, 61, 148, 170
Beldin, A	7, 137	Greenberg, V	160	Luttrell, L	13, 34	Shoupe, P	110
Bloodworth, A	26, 92	Hannon, J	56, 100, 143	Maddox, K	187	Sillah, O	167
Bortvit-Mapes, J	175	Hanson, H	59	Martin, D	147	Simmons, A	44
Boutwell, J	27, 149	Harrell, E	171	Masch, G	12	Slaten, K	77
Boyd, A	26, 30, 162	Harris, J	97	Maxwell, D	131, 181	Smith, S	169
Bragelman, J	156	Harrison, K	73	Melody, M	193	Smithey, M	134
Britton, J	33, 99	Hermann, S	128	Meredith, A	78, 121, 165	Solomon, E	23
Broome, J	40, 144	Herrington, G	132	Merritt, A	69	Spence, D	124
Brown, B	79	Hill, R	43	Miller, C	142	Stecher, B	38
Bryant, S	5	Hoffpauir, R	2, 182	Mobley Outlaw, K	174	Stokes, L	10
Burrell-Sneed, E	47	Holte, S	8, 49, 76, 123, 189	Moldavan, A	115	Taylor, S	88
Butler, D	116	Hornbeck, D	108	Mooney, B	168	Torbert, G	155
Byrd, L	94	Howse, T	141	Moreno, J	111	Trowell, S	16
Campana, A	159, 180	Huddlestun, D	28	Motes, D	84	Walton, V	45
Cannon, S	80	Hull, M	54, 140	Nelson, D	57, 184	Watson, A	109
Casler-Failing, S	62, 107, 125	Ihrig, M	129, 151, 173, 191	Oglesby, H	117	Welji, S	146
Clark, S	150	Johnson, M	74	Ortiz, N	25, 164	Westbrook, M	86, 127
Clarke, T	119	Jones, S	67	Owen, R	31, 104, 145	Wiernicki, M	154, 176
Clody, A	101	Julian, H	186	Pelt, J	102, 122	Wiley, T	55, 105
Coffey, B	98	Kavanaugh, S	3, 24, 46, 68, 90	Petti, D	11	Wilkerson, D	112
Coley, Y	15, 183	Kendrick, C	152	Phillips, H	51	Williams, R	103
Conley, K	1	Kirwan, V	95	Poss, D	41, 106, 190	Wilson, D	19, 63, 85
Conway, B	82	Kline, K	66	Prasad, V	18	Wilson, V	9
Crawford, C	93	Koes, C	75	Randall, A	42		
Crump, K	185	Kulp, K	157	Ransom, M	161		
Eisenreich, H	32	Lanier, G	52				